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A CASE OF DISSECTING ANEURISM OF THE AORTA.

BY E. MICHENER, M. D.

10th mo. 14th, 1843.—Nelson Taylor, aged 33 years, was attacked more than a year ago with pain in the lumbar region, which after some days left him, but continued to recur at intervals for some months. For this he was variously treated by several physicians of Philadelphia, — sometimes for a spinal, sometimes for a renal affection. His health still declining, he came to the country in the Sixth month last, where he became the patient of Dr. Boyd, who likewise considered his case one of kidney disease, and treated him accordingly.

About six weeks ago, when lying perfectly still in bed, on his back, he experienced a sensation in the right iliac region, which he compared to something of the size of the finger being thrust suddenly forward into the flesh, and in an instant after the same sensation was repeated. This was immediately followed by acute pain, which extended down the limb, and rendered it almost useless for two or three days. Pains of a similar character have occurred in the lower extremities—but mostly in the *left* one—at intervals ever since. Three weeks afterwards Dr. Boyd discovered a circumscribed tumour, two or three inches in diameter, lying low down in the right iliac region. The tumour was not tender on pressure, nor did he observe any pulsation in it. From that time forward it rapidly extended upwards and forwards, displacing the viscera to the left side. Three days ago Dr. Boyd detected pulsation in the tumour. The strength of the patient has rapidly declined during the last six weeks.

Last evening I received a note from Dr. Boyd, expressive of the mutual wish of Nelson and himself that I should see the case this morning. He did not attend. I found a tense, elastic tumour, occupying the space between the umbilicus and crest of the right ilium, of a spherical form, and not less than six inches in diameter. It is not painful, neither is it tender on pressure; but there is a strong, *undulatory*, pulsating motion, synchronous with that of the heart, and so strong as to be seen at several yards distance, when uncovered. The circulation in the limbs below does not appear to be affected. He has slight symptoms, resembling hectic, but these may depend upon the use of morphine, which he takes for the paroxysms of pain in the left lower extremity.

Notwithstanding the rapid progress of the tumour, the want of pulsation in its commencement, and the undulating character of its motions, I gave it as my opinion that it was an aneurism, and probably proceeded from the common iliac. I advised only a palliative treatment.

The tumour is gradually increasing in all directions, and the pulsation is particularly strong in the side above the crest of the ilium.

19th. Dr. Seal saw the patient with me, and fully concurred in my opinion.

The tumour now presents a distinct lobe just below the margin of the ribs, with a strong sulcus between. The original tumour still increases, and the pulsation grows stronger. Paroxysms of pain in the left extremity are frequent and severe, requiring large doses of morphine. He takes little nourishment; has a general exsanguineous appearance, and is fast declining in strength.

21st. The tumour now extends from the pubes to the margin of the ribs; is most prominent just within the ilium; and the sinus mentioned in last report is nearly filled up. He is very feeble, and takes nothing but cold water.

Advised him to take light nourishing food.

24th. Met Drs. Boyd and Pennock this morning. The latter concurred with me.

The tumour still progresses, and the whole abdomen seems quite too full. The pulsations are so strong, that when the stethoscope is employed the head of the operator is raised nearly a quarter of an inch by every impulse of the heart. Were it not for this positive indication, it would seem to me almost incredible that an aneurismal sac could reach such an enormous size without rupturing. Nor does the extraordinary progress of the present case accord well with that of aneurisms in general. Both these difficulties may, however, be partially solved by the observations of Morgagni and other surgeons, that in large aneurisms of the abdominal aorta the sac is only in part made up of the coats of the vessel, constituting mixed aneurisms.

In the afternoon, Drs. Worthington and Thomas saw the patient, in company with Dr. Boyd. They fully admitted the obscurity of the diagnosis, but hesitatingly agreed with Dr. Boyd that it was an abscess. They were led to this conclusion by the early history of the case, by the want of pulsation at the commencement of the tumour, and by its very rapid developement. But the circumscribed form of the tumour from the first, its remarkable pulsation, and the entire absence of irritative fever, still inclines me to adhere to my first opinion. Besides, while the tumour was small, and lay deeply imbedded among the abdominal viscera, the pulsation might have been overlooked by Dr. Boyd.

28th. A note was received to-day from Drs. Worthington and Thomas, stating that on further reflection, since their return home, they had reversed their former opinion, and now concurred with those who considered the case to be aneurism. They also informed me that they intend visiting him to-morrow, in company with Professor Gibson, of Philadelphia.

29th. Met Drs. Gibson, Worthington, Thomas, Pennock and Boyd. After a full examination, Professor Gibson pronounced the case to be one of aneurism; premising, however, that the symptoms were unusually obscure, and that this might be occasioned by some undiscoverable complication of disease. He supposed that it might have originated from the aorta near its bifurcation. All present

seemed to unite in the general accuracy of these views, and concurred in the continuance of only a palliative treatment.

The pulsation is sensibly weaker, but the tumour is still increasing. The strength continues to decline; and there is increased sallowness of the skin.

11th mo. 2d. For the last two days he has taken more food; has suffered less from paroxysms of pain; and in other respects has felt more comfortable, though constantly declining in strength.

Advised the moderate use of wine.

6th. The tumour has constantly increased, especially in the direction downwards, and in front of the ilium. The pulsation is greatly reduced in strength. He feels invigorated by the wine; suffers less from pain; takes a larger portion of food, but is more disposed to wakefulness; and his pulse, voice, and general condition all indicate a rapid reduction of the vital powers, or rather, of the available quantity of vital fluid in the system. In consequence of a slough on the sacrum, he has laid much of the last two days on the right side.

10th. Has slept but little for several nights. During the past night he experienced a sensation which he supposed was caused by a rupture of the sac, and induced him to have the family called up. Suffered a severe paroxysm of his usual pain this morning, which left him completely exhausted. Several spots of diffuse gangrene appear on and around the sacrum. Takes no food; extremities cool; pulse very frequent and feeble.

For the last two days the tumour has increased rapidly in the direction of the scrobiculus cordis. The abdomen is very full, and tense; and the epigastrium is painful on the slightest touch. The swelling causes considerable oppression, and renders respiration laborious. These concurrent signs of a speedy crisis led me to apprize the family of his approaching dissolution.

11th. I was called to see him at 9 o'clock last evening, in consequence of acute pain in the epigastrium. I found him in a state of severe suffering; epigastrium very tense, and intolerant to pressure even of light clothing; pulse 160, weak; respiration quite laborious; extremities cold, but the intellect clear. The pain abated on taking some morphine, but the oppression increased till midnight, when he seemed to lose his consciousness. From this time he talked incoherently, and continually passed his hands over the abdomen, indicating a state of suffering there, until three o'clock, when he became perfectly still, and at half past four, A. M., expired without a struggle.

Immediately after death I observed that the tumour was neither so tense nor prominent as before, yet I had no reason to suppose that the sac had given way.

Agreeable to his own request, arrangements were made for a *post-mortem* examination.

12th. We proceeded to the examination, thirty-four hours after death. Present, Doctors Worthington, Pennock, Hobson, Bye, D. M. Alison, Boyd and myself. This late period was chosen in order to accommodate those who live at a distance, without adverting to the tendency which such a mass of blood must have to run into rapid putrefaction.

On exposing the body, the parts covering the tumour—indeed, nearly the whole of the abdominal parietes were almost black, and quite offensive. From this and other causes, which will become manifest as we proceed, both the operation itself and the discrimination of parts were rendered difficult. I shall follow the course of the dissection, which was hastily made, as closely as possible.

The abdomen was laid open by a double crucial incision. The peritoneum contained a small quantity of bloody serum; and the intestines were all crowded into the left side, except the cœcum, which was strongly adherent to the apex of the tumour. The omentum and intestines, in the immediate vicinity of the tumour, had formed slight adhesions, which were easily separated with the fingers. The stomach and intestines, together with the omentum and mesentery, were removed. The tumour, which now presented, occupied the entire right side of the cavity, and, with the whole posterior aspect of the abdomen, exhibited one continuous mass of black grumous blood, with which the sub-peritoneal cellular tissue was completely infiltrated. No trace of the right kidney was to be seen. The left one was thrust forward, and appeared of two or three times its ordinary size. The artery was now traced from above the bifurcation of the aorta along the common, internal, and external iliacs, all which were in a normal state. Dr. Boyd next attempted to detach the sac along its spinal margin, but penetrated immediately into the cavity throughout its whole extent.

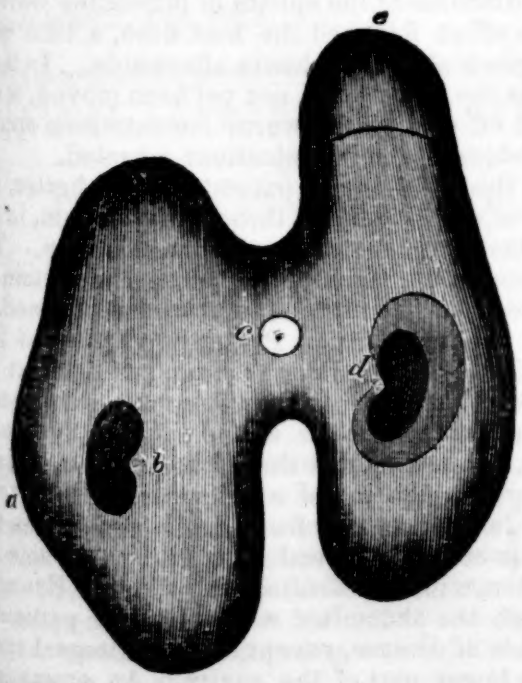
The sac was then everted over the ilium, and a very large wash bowl completely filled with its contents, consisting of concentric laminæ of half organized lymph, coagula, and fluid blood. The sac was composed of the peritoneum and subjacent cellular tissue, so completely infiltrated with blood as to be distinguished with the greatest difficulty from the parts within. It was impossible to say exactly where the one terminated or the other commenced. Posteriorly the sac was formed of the psoas, the iliacus, and the abdominal muscles. Thus far we had not discovered a vestage of the right kidney, but it was now found imbedded in the ecchymosed cellular tissue, which formed the anterior portion of the sac. It appeared to be in a healthy condition, although it must have been protruded forwards more than six inches, and lay in front of, and just above the superior anterior spinous process of the ilium. The liver and spleen, with large portions of the sac and great quantities of blood were next removed, in order to trace the aorta upwards. In doing this we discovered a diseased state of the spinal column. The two lower dorsal and two upper lumbar vertebræ were denuded of periosteum on their anterior aspect, and the bodies of the two intermediate ones were much wasted. On raising the artery, an aperture was brought into view, in its posterior side, large enough to admit the thumb. It was nearly circular; the edges were smooth, rounded, and resembled an old cicatrix. The vessel was slightly dilated, and bore marks of former disease at the point of perforation; and it was completely consolidated with the sac all round the orifice. The aperture was a little inclined to the right side of the spine, and lay opposite to the articulation of the last dorsal and first lumbar bones.

After having removed the diseased vertebræ, and cleansed them from adherent blood, I found the bodies, and much of the anterior aspect of the lateral processes, denuded of their periosteum, and apparently in a state of *necrosis;* for the osseous matter being dry, firm, and free from the well known odour and secretion accompanying carious bone. The whole of the denuded surfaces were neatly covered with a smooth pellucid coat of firm lymph, of the thickness of paper, which could be peeled off, leaving the bone quite clean. At the upper edge of the

first vertebræ, and a little to the right of the median line, corresponding exactly with the aperture in the aorta, is a salient projection of bone. It is probable that the vessel was perforated by the more or less direct action of this point. It may also be proper to remark, that the deepest excavations in the bones were immediately opposite the aperture in the artery, where the jet of blood would impinge with the greatest force. Pursuing our investigations across the spine into the left side, we entered another lobe of the sac, which, like the one on the right, extended downwards behind the left kidney, elevating it two or three inches, and finally reaching to the pelvis. On this side the blood also took a direction upwards, burrowing behind the spleen, tearing up the posterior attachments of the diaphragm, and raising the pleura for four or five inches within the cavity of the thorax. The hypertrophied appearance of the left kidney, which has been noticed, was only *apparent*, and was produced by the infiltration of blood into the cellular capsule, by which it is surrounded. Indeed, so far as they were examined, we discovered no appearance of organic lesion in any of the viscera.

There were no actual measurements taken, either of the dimensions or of the capacity of this enormous sac; but if we take the right and left lobes together, they must have exceeded twenty-four inches in length, and at its most prominent part, opposite the crest of the ilium, its antero-posterior diameter could not have been less than eight inches. The most accurate estimate of its contents which I can arrive at is derived from the bowl, which was filled with them. It must have contained at least *six quarts;* and if all the remaining portion had been collected, it would certainly have measured as many more—thus giving *three gallons* as the contents of the tumour.

The accompanying diagram will afford a tolerable idea of the outline of the sac.



a. The prominence above the crest of the right ilium.
b. The situation of the right kidney on the apex of the sac.
c. The aperture between the artery and the sac.
d. The left kidney.
e. The lobe of the sac which penetrated upwards into the cavity of the thorax.

I am aware that this statement will impose a severe tax upon the credibility of the narrator among those who did not see for themselves; for it is difficult to conceive how the exhausted powers of the system could have endured so long, and to so great an extent, the drainage of the vital fluid from its proper receptacles. But it has been my endeavour to give a faithful, though very imperfect narration of the case.

Remarks.

It may be instructive to review some of the circumstances which produced so much obscurity in the foregoing case, and endeavour, by the light of dissection, to trace the phenomena which it presented to their proper causes.

All who saw the case acknowledged the obscurity of the diagnosis. At times the opinions entertained were entirely irreconcilable; and it must be admitted that, until dissection revealed its true character, the precise nature of the lesion was not understood by any. The general opinion prevailed that it was aneurism, but no one could define its characters. All must now agree that it was a *false* or *cellular aneurism*. The absence of adhesion between the laminæ of the tissue composing the sac allowed of its very rapid expansion, and permitted even the sac itself to become completely infiltrated with the contained blood.

It seems probable that the spine first became affected, so as to produce the salient point of bone which I have described. The vessel was then abraded, so as to induce ulceration, or more directly cut through. At first the aperture would necessarily be small, and the blood would escape slowly. This would allow time for the formation of a cellular sac, capable of resisting the constantly increasing jet of blood, to a degree at least sufficient to prevent the otherwise immediate consequences of opening so large an artery. The jet of blood having to impinge directly against the spine would lose much of its force, and this circumstance would very much aid the resistance of the surrounding tissues. These views are confirmed by the facts, that the projecting bone is a little to the right of the median line, the aperture in the vessel corresponded exactly with it, and the greater mass of blood had taken that direction.

However satisfactory the *rationale* just offered may appear, I cannot refrain from suggesting another for consideration. If we admit the ulceration of the coats of the artery as the primary lesion, it seems not unreasonable to suppose, that the incessant force of the jet of blood impinging against the spine might cause the absorption of the periosteum and subjacent bone, so as to produce the condition described. In this case, the deeper perforations, which extended nearly through to the spinal canal, and which were found opposite to the orifice in the artery, may have been worn away by the impulsive force of the blood after the bones had lost their vitality.

At first the blood probably took a direction downwards behind the right kidney, by which it was strongly tied down. Having passed below that viscus it found less resistance, and pushed forwards into the iliac region, where it formed the prominent tumour discovered by Dr. Boyd. This view explains the absence (or perhaps I should say the feebleness) of pulsation in the tumour at an early period. The jet was first thrown against the spinal column, as we have already seen, and the reflex current, with a greatly subdued force, had then to traverse a narrow confined passage behind the kidney before it reached

the tumour in the iliac region. The position of the cœcum on the very apex of the sac, would add still more to the obscurity.

The sulcus, which was at one time very apparent on the anterior aspect of the tumour, was occasioned by the kidney, which probably did not part from its attachments quite so readily as the surrounding tissues. This position of the kidney enables us to understand why the pulsation was always less distinct at that point than in the side above the ilium.

The most remarkable and characteristic symptom was what I have termed the "undulatory pulsation" of the sac, in contradistinction from the bold and forcible stroke observed in true aneurisms of the aorta. I will leave it for others, who possess better opportunities, to decide the question; but it appears to me that the difference in the texture, and, consequently, in the resistance offered by the two kinds of sac, must always produce a corresponding difference in the character of its pulsations. If further observations shall confirm this opinion, the character of the pulsation will afford a means of discriminating between the *true* and *false* aneurism.

It has been stated that the pulsations in the aneurism were synchronous with those of the heart. This was at one time doubted by some who made the examination. It may be proper to offer an explanation of the source of this error. While the pulse remained slow and full there was no difficulty, but as his strength declined, and the pulse grew more frequent and feeble, it became more uncertain. It necessarily required a longer interval of time for the slow undulations to pass through the sac than what the accelerated pulsations of the heart allowed. Each *succeeding* undulation commenced before the *preceding* one had ceased—rendering them confused and indistinct. In the latter period of the disease, the synchronism of the undulations could be determined much more satisfactorily by the sight than by the touch.

I have said nothing of the stethoscopic characters of the case, because, to my unpractised ear, its oracular revelations too often afford an uncertain sound. But auscultation was not neglected.

In all its stages, after the pulsation was discovered, the tumour yielded that *rushing sound* which is considered to be pathognomonic of aneurism. The *whizzing sound*, produced by the blood escaping from a fissured vessel, could not be so clearly ascertained; yet Dr. Seal believed, on more than one occasion, that he could detect it *high up* in the epigastrium.

Dr. Pennock and myself both succeeded in tracing the pulsation of the artery, distinct from that of the tumour, along the aorta, the common, and the external iliac arteries, from whence we inferred that there might be a *fissure* of the vessel, without so far destroying its integrity as to prevent the free passage of blood through it. This view was confirmed by the uninterrupted circulation in the parts below the aneurism.

In all these particulars, the diagnosis afforded by the stethoscope was found to be correct.

New Garden, Chester Co., Pa., 11th mo. 15, 1843.

HOW TO MAKE LEECHES BITE.—The leech, which it is intended to apply, is to be thrown into a saucer containing fresh beer, and is to be left there till it begins to be quite lively. When it has moved about in the vessel for a few moments, it is to be quickly taken out and applied.—*Med. Gaz., from Weit. Bietr.*

ACCOUNT OF AN UNUSUAL STRANGULATION OF A PORTION OF THE LARGE INTESTINES,

Caused by the formation of an adventitious band, between the stomach and liver.

BY P. LE B. STICKNEY, M. D.

On the 7th instant I was called to attend Mrs. A. in her confinement; she had an easy labour, and was delivered of a dead infant. On the second day after the delivery, the patient was very comfortable, the bowels having been spontaneously and very freely moved. On the third day there were two copious evacuations. Under these circumstances it was not considered necessary to administer the usual laxative on such occasions. On the fourth there was but one evacuation. On the fifth and sixth, there were none. The patient continuing to improve.

On the 14th inst., I was sent for in haste, and found the patient complaining of a severe pain in the back, accompanied with a violent hiccough and vomiting, the pulse natural and skin moist and cool. An ounce of castor oil was ordered, together with injections of warm water and laudanum. The oil was rejected from the stomach, but the pain subsided after using the injections. No operation of the bowels.

On the 15th, the pain had returned, the vomiting and hiccough was constant. The usual remedies were employed, but with little success. The bowels still constipated. Seidlitz powders with mustard cataplasms over the stomach ordered.

On the 16th, the bowels in the same condition; the pulse beating over a hundred; the abdomen greatly distended, and very tender upon pressure. Dr. E. Ward was called in consultation. The patient was bled freely, and a purge of calomel and jalap directed, the action of which was to be hastened by an enema. During the day, as no effect had followed the purgative, one ounce of castor oil and three drachms of the spirits of turpentine were given. As no effect followed the first dose, a like quantity was given about four hours afterwards. In the evening, as the bowels had not yet been moved, a drop of croton oil was given, warm fomentations applied to the abdomen, and the injections repeated.

On the 17th, as the patient was no better, a large catheter was introduced through the rectum, in order if possible to fill the colon with an injection. The resistance to its introduction beyond a certain point, was so great, that the attempt was abandoned.

On the 18th, Dr. J. Pancoast was called in consultation. It was thought proper to attempt giving another injection. Dr. Pancoast introduced the rectum catheter, as far as the sigmoid flexure of the colon, but beyond this there was an obstruction to its passage, which it did not appear prudent to force, and a large quantity of a saline injection was thrown up, but which returned quickly by the side of the catheter, without affording any relief. Examination through the abdominal walls gave no particular indication of disease, except some peritoneal soreness, at the lower part of the cavity. An aromatic infusion of senna was directed, and if this was rejected by the stomach, the patient was to be placed fully under the influence of opium by enema.

On the 19th, no alteration for the better. Dr. Pancoast visited the patient for the second time, in company with Dr. Dunglison, to determine as to the propriety of attempting to relieve the patient, by making a temporary opening into the colon at the right or left lumbar region.

After a careful examination it was decided that the case did not warrant the operation. A suppository of five grains of opium was ordered, this to be followed at repeated intervals by a pill of two grains of opium by the mouth.

On the morning of the 20th the patient died. Twelve hours after death, my friend Dr. C. Huston and myself, made a careful post mortem examination. Upon cutting into the abdomen we found a circumscribed cavity extending from above the umbilicus to the pubis, and bounded in front throughout its whole extent by the parietes of the abdomen. The walls composing the cavity were thickened, and of a chocolate colour. The cavity contained a large quantity of fœtid gas, and about six ounces of a dark coloured fluid. On farther dissection, the whole abdominal cavity being laid open, the transverse portion of the colon was found doubled upon itself, and pushed downwards towards the right crest of the ileum, so as to lie obliquely across the small intestines. On examining the descending colon, a portion of it together with the whole of the sigmoid flexure, was found encircled by a ligamentous band of about an inch in length, and of the size of a crow quill; one extremity being attached to the anterior surface of the stomach, and the other extremity to the apex of the left lobe of the liver, forming a perfect bridle by which this portion of the colon was suspended, and causing a complete strangulation. The upper portion of this strangulated loop being the sigmoid flexure, and lying with its long diameter parallel with the median line of the body, formed the cavity which was first opened in making the dissection.

About one-third of the omentum covered the loop and was adherent to it, and to the walls of the abdomen.

There was also a slight adhesion between the band and the intestines. Had it been possible to have ascertained the state of the parts beforehand, the case might possibly have warranted an incision through the walls of the abdomen for the purpose of dividing the stricture.

Philadelphia, Dec. 1843.

CLINICAL LECTURES AND REPORTS.

PENNSYLVANIA HOSPITAL.

CLINIC OF J. RANDOLPH, M. D.

[Reported for the Medical Examiner.]

November 25, 1843.

LECTURE I.

ON HYDROCELE.

GENTLEMEN:—I propose, to-day, to exhibit to you a patient affected with the complaint we term hydrocele. Previously I shall make a few remarks upon the nature of the disease, and point out to you the different methods of operating which have been resorted to for its cure.

The tunica vaginalis secretes in its natural state a limpid fluid, which lubricates its internal surface and those of the tunica albuginea; whenever this fluid from any cause is secreted in too great a proportion, it distends the tunica vaginalis, giving rise to a tumour of the scrotum, which is termed hydrocele. When the communication between the cavity of the abdomen and the tunica vaginalis is not closed as it should be at the usual time, the fluid descends from the cavity of the abdomen into the cavity of the tunica vaginalis, forming what is called a congenital hydrocele. Hydrocele is a disease of frequent occurrence; it is incidental to the young as well as the old; it is most commonly a local disorder; sometimes, however, it is combined with a hydropic condition of the system.

The causes which give rise to this disease are not well known. Mr. Pott says, that any cause which increases the natural secretion into the cavity of the tunica vaginalis, and prevents the absorbent vessels from taking up the fluid, will contribute to its formation. It may often be traced to external injury, such as blows, falls, strains and frictions. It is also owing sometimes to inflammation of the testis, and is frequently combined with stricture of the urethra, or local irritation along its course. Dr. Physick succeeded in curing a case of this disease by dilating the stricture by means of a bougie.

Hydrocele is sometimes conjoined with sarcocele, or chronic enlargement; in this case it is termed hydrosarcocele. It is very important to distinguish between these two diseases; and this distinction may be easily made by attending to the following circumstances; in sarcocele, the tumour is oval and flattened; it may attain a considerable size, without, however, ascending so near to the external abdominal ring as a large hydrocele does. In sarcocele there is a space between the top of this tumour and the abdominal ring, whereas, generally, there is none in a large hydrocele. The tumour may also be known by its weight and opacity. In hydrocele the swelling commences at the bottom; is generally confined to one side; at first the tumour is flaccid, and the testis may be felt through it; but as it increases in size it becomes firm and incompressible, and conceals the testis; the swelling assumes a pyriform shape, the corrugations of the scrotum disappear, and the raphe inclines to one side; generally there is little or no pain or inflammation; no alteration of colour. When inflammation, however, precedes this disease, there is pain, swelling, and hardness. The swelling in hydrocele is translucent, which, by the usual means, may be detected. In some cases the tunica vaginalis testis becomes thicker and harder, the fluid is opaque and dark coloured, thereby preventing the rays of light from passing through it. Under these circumstances there would be no transparency.

Sometimes an accumulation of fluid takes place in the tunica vaginalis of the spermatic cord, forming an encysted hydrocele of the spermatic cord. This disease may be confounded with hernia, from which it is very necessary to distinguish it. In hydrocele of the cord the accumulation takes place gradually, unattended with pain, and is always below the external abdominal ring. When the patient coughs there is no impetus communicated to the finger, and the tumour is not capable of being returned into the cavity of the abdomen; whilst in hernia, the swelling takes place suddenly, after some violent effort, attended with pain; and the peculiar impetus is communicated from the tumour when the patient coughs, and it may generally be returned by pressure into the abdomen. When both these diseases take place in the same person, the diagnosis is difficult. The scrotum is liable to anasarcous swellings, which is termed anasarcous tumour of the scrotum, or hydrocele œdematodes. In this case the scrotum is swelled on both sides; serum or lymph is effused into the cellular tissue, exterior to the tunica vaginalis testis; the indentations of the fingers remain after pressure, and there is generally a hydropic condition. The

treatment consists of general and local remedies. The local means consist in puncture and compressure. In young children this disease may frequently be cured by absorption; to this end the patient should be purged by small doses of calomel and rhubarb, or cremor tartar and jalap, and the scrotum supported by a suspensory bag, and kept wet with a solution of muriate of ammonia, ʒij., in liq. acet. am. ℥vj., as advised by Sir A. Cooper. The affusion of cold water, and the muriate of ammonia dissolved in vinegar and laudanum, may also be used with advantage; but this treatment will not succeed in adults. The treatment in these cases is divided into palliative and radical. The palliative consists in the operation of tapping the tunica vaginalis testis, and letting the fluid escape. The scrotum should be placed in a suspensory bag, and pressure should be employed. The radical treatment consists in exciting inflammation, so as to bring about adhesion between the tunica vaginalis testis and tunica albuginea, closing the cavity of the bag, and preventing a receptacle for the water.

It is generally proper to resort to the palliative treatment, and to ascertain the condition of the testis, before attempting the radical cure. It is necessary to guard against excessive inflammation. Tapping has been known sometimes to produce a permanent cure, but this event is rare. The most ancient operation was that described by Celsus, which consists in making an incision into the tunica vaginalis testis to the bottom of swelling, and introducing lint. The objection to this is the danger of too great inflammation. The second method consists in excising a portion of the tunica vaginalis testis, which also is objectionable, from the excessive inflammation it may produce. The third method consists in applying vegetable caustic, causing sloughing of the tunica vaginalis; but here the cure is tedious, and accompanied by troublesome ulceration. This mode of operating was advocated by Wiseman. Another mode is to introduce a tent of sponge or lint, or a canula, or short piece of gum elastic catheter, as advised by Baron Larrey into the tunica vaginalis testis: there is in this danger of injuring the testicle. The introduction of a seton has also been frequently employed, and was particularly recommended by Mr. Pott.

The last method consists in injecting some stimulating fluid into the cavity of the tunica vaginalis, so as to bring about the necessary inflammation. For this purpose port wine has been used, in the proportion of two-thirds wine to one-third water. A solution of sulph. zinci has been tried; iodine, cold water, the fluid drawn off, have all been used; but port wine is considered by Dr. Randolph to be the best.

The length of time that the liquid shonld remain has been found to be about five minutes; but in textures, which are very thin and vascular, two or three minutes have been found long enough. In some cases port wine has been injected undiluted. It is requisite to keep the extremity of the canula well within the tunica vaginalis testis, to prevent the fluid from escaping into the cellular tissue, and producing inflammation and sloughing. If the inflammation runs too high, it is necessary to put the patient on antiphlogistic treatment; purgatives, low diet, rest, and cold applications should be enjoined. If the inflammation is not sufficiently great, cause the patient to walk about, give him good diet, wine. The after treatment might depend on the degree of inflammation.

The man was now introduced into the amphitheatre, and Dr. Randolph drew off the fluid by puncturing the tunica vaginalis by means of a trochar. The disease first made its appearance in October last a year, and supervened three or four weeks after a fall.

CLINIC OF THE UNIVERSITY OF PENNSYLVANIA AT THE PHILADELPHIA HOSPITAL.

BY MEREDITH CLYMER, M. D.

(Reported for the Medical Examiner.)

LECTURE I.

ON SYPHILIS.

Nov. 29th, 1843.—GENTLEMEN:—The name Venereal Disease is given to all those morbid phenomena which result from impure sexual intercourse. Now, an immense mass of disorders is included in this comprehensive definition; but two great classes may be established, which occur occasionally combined, but which are always distinct, both in their nature and consequences; these are, I. Virulent Venereal Affections, recognising as an invariable proximate cause the direct action of a specific morbid poison. Chancre is the first manifestation of this class. II. Non-Virulent Venereal Affections, which do not necessarily result from the action of any one fixed cause. The prototype of this class is Gonorrhœa.

I shall to-day consider the Virulent Affections, or Syphilis. I shall not detain you by any historical disquisition to prove that syphilis has existed in all ages, or occupy your time by rebutting the evidence which has been adduced to bestow the honours of paternity on America. After an examination of the various theories on the origin of syphilis, you would probably acknowledge with Voltaire, that "*la verole est comme les beaux arts, on ne sait pas qui la inventée.*" But as I shall have frequent occasion to employ the term venereal or syphilitic virus, it is proper for me to inform you, by that expression I understand a morbid principle or poison, which applied under certain conditions to any portion of the human body, will determine there definite and characteristic phenomena; that this principle being absorbed and carried into the system, will, during the existence of the local or primary symptoms, and for an indefinite period subsequent to their cessation, contaminate the economy; and, finally, that this principle is capable of being transmitted hereditarily, and that, too, at a period when its presence in the system is not revealed by any external sign. This capability of hybernation for a number of years within the economy, without producing in the meanwhile any appreciable effect upon it, is a character peculiar to the syphilitic virus. The existence of a special virus was denied by Broussais and his School, who believed that chancres were nothing more than simple sores, and treated them accordingly. The existence of a specific morbid poison in syphilis can be demonstrated alone by its effects. Now the matter of a primary syphilitic sore or chancre introduced beneath the epidermis, is constant in its results, whoever the individual, or whatever the part of the body inoculated. This is conclusively proved by the numerous experiments of Ricord, Wallace, Mayo, Carmichael, Mairion, Parker, &c. No other secretion or product of an ulcerous or suppurating surface, will produce the same

effects. I cannot, from want of time, enter at length into the vexed question of the identity or non-identity of the venereal poison; that is, whether the two classes of affections we have referred to are due to one virus, or result from the action of several. In my judgment, facts go to prove conclusively the non-identity of the virus of chancre and gonorrhœa, and to establish the validity of the distinction I have made. Gonorrhœal matter applied to a mucous surface will produce gonorrhœa, but in no instance is it capable of producing true chancre. It may act as an irritant, but it cannot produce a specific ulcer. The phenomena of constitutional syphilis never follow gonorrhœa. I know that the reverse has been frequently stated, and that, too, by very respectable authorities, but I will indicate to you the sources of error. In the cases which have been cited to prove the identity of the two virusses, it has been said that a diseased individual having had connection with several healthy persons, these latter would be variously affected; some would have chancres, some gonorrhœa, and others both together. Now in these cases, the two diseases coexisted in the diseased person. Had he or she been properly examined, larvated chancres would have been discovered either in the urethra, or about the neck of the uterus, or in the cul de sac of the vagina, or elsewhere. Never pronounce that a woman has no chancre until you have thoroughly examined her with a speculum. All those recorded cases, where no speculum was used, are perfectly worthless.

The classification of venereal diseases proposed by Ricord is as follows: I. Primitive or Direct, when they occur at the inoculated spot, from the immediate action of the virus. II. Successive, when they originate in the latter, and are produced elsewhere by absorption or contiguity of tissue, or accidental contact, as chancrous bubo, and the conversion of neighbouring abrasions, or leech bites into chancres. III. Secondary, when the skin and mucous membranes are affected after the reception of the chancrous matter into the system; and IV. Tertiary, when the cellular, fibrous, and bony structures are the seat of the constitutional symptoms. V. Diseases unconnected with syphilis.

This classification strikes me as unphilosophical, wanting in simplicity, and many of the grounds on which it is founded are incorrect and untenable. The two first may certainly, without violence, be included under one head; the second and third divisions are not susceptible of separation on the grounds given by Dr. Ricord. The so-called tertiary symptoms may arise without the necessary intervention of the secondary. Dr. Ricord asserts, that whilst the former may be transmitted hereditarily, the latter cannot be, except in a degenerated form, as scrofula. This assertion I agree with a large majority of the writers on syphilis, in denying, believing them to be both equally liable to propagation by inheritance. The fourth species, or non-syphilitic, I do not comprehend. A more simple and less objectionable classification is, I think, the following: I. Primitive or Local Syphilis, of which chancre is the only exponent. II. Consecutive, General, or Constitutional Syphilis, which is always strictly the consequence of a chancre.

By a chancre I mean a solution of continuity in the soft parts, produced by the disorganizing action of the syphilitic virus upon the inoculated spot. Chancre, wherever its seat, is the consequence of the application of a specific matter which a chancre alone secretes, and which produces a chancre whenever placed in circumstances favourable to contagion. Does any time elapse between the application of the virus and its action? Ricord is the only writer on syphilis who denies that there is a period of incubation, and on the ground that, in no instance after his experiments with inoculation did he observe any. When the virus is introduced beneath the epidermis its action may be immediate, but this is far from being the case when the infection is natural. The following case, mentioned by Dr. Huguier, one of the physicians of the Female Venereal Hospital at Paris, is one of many others which conclusively establish the possibility of incubation. Two friends after a debauch had connection with the same woman. Three days subsequently one was attacked with a chancre; and it was not until the twenty-first day that his friend became similarly affected, although he had in the meanwhile daily examined the parts, and suspended all sexual relations. The period of incubation varies with the degree of susceptibility of the organ, and the manner in which the affection was contracted.

The development of chancres may occur in three ways, 1. Pustule; 2, Ulceration; 3. Small abscesses. The physical characters of chancres vary with their number, and their location. If several chancres exist at the same spot the form is irregular, and the edges are jagged and notched; in the natural folds of the skin and mucous membranes, and in depending parts where the virus acts in a longitudinal direction, their form is of the same character. The tissue which is the seat of the chancre alters its aspect. On the lips, which are highly organised the chancre is granular; on the labia majora, and other cellular parts, the chancre is of a greyish appearance; when situated in the body of the penis, if the ulceration has penetrated to the fibrous envelope of the corposa cavernosa, the ulcer will present that white, shining, brilliant appearance peculiar to fibrous tissue. When on the glans penis the granulations are generally of a bright red, and bleed on the slightest touch. The edges of a chancre are generally perpendicular, and look as if they had been cut out by a sharp instrument, the primitive venereal virus nearly always acting centripetally. Such is the appearance of the sores in the man I now present to you, who has a number of small chancres in his prepuce, combined with a balanitis and a posthitis. If, however, the virus comes in contact with previous abrasions, the cellular tissue is more rapidly destroyed than the skin or mucous membrane, and the latter are dissected up, as in the case now on the table. The character of the pus varies with the period that the ulcerations have existed, at first serous, thin, even sanious, and mixed with the disorganising tissue; then healthier, thicker and often mixed with blood; and it finally becomes consistent, of a yellowish tinge, of a better character, resembling that on the surface of a blister in full suppuration. It varies too with the nature of the ulcer. There are two stages in chancre, one of ulceration and the other of cicatrisation. Now there is one important difference in these two stages, which you should notice, as it is of great practical utility. In the first stage a specific matter is secreted, which retains its inoculable properties. The specific period has no absolute limits of duration. Dr. Ricord has seen it in one instance last for seven years, and inoculate at the end of that time. The usual duration, is from one to two months. In the second stage the chancre ceases to be inoculable, granulates and heals. If a chancre is in the second stage, in the progress of cicatrisation, connection will not be followed by disease; but if the ulcer is in the first stage, inoculation will inevitably result. Chancres may

be divided according as their location is external or concealed; hence we have *external* and *larvated* chancres. Larvated, or concealed chancres in the male are situated in the urethra, and in the mucous fold of the prepuce, and at the base of the glans where there is phymosis; in the female, in the urethra, at the orifice of the vagina, above the carunculæ, in the vagina, and in and about the neck of the uterus; and within the anus, in the rectum, in the fauces, larynx &c. in both sexes. Chancres may also be divided according to their characters. I admit four varities. 1. Follicular; 2. Iudurated; 3. Phagadenic; 4. Furunculous.

A Follicular chancre is enveloped either in a sebaceous or hair follicle, or in the tonsillary structure of the vagina. On the application of the virus, the follicle becomes inflamed, more salient, and its point elevated; it is filled with an opaline fluid, which finally becomes pus. If exposed to the air, a scab forms, if not, the summit becomes flattened and cupped, and the ulceration extends from half a line to a line in depth. Several little ulcers generally exist at the same time adjoining each other, they unite, and their edges become irregular and jagged. When the ulcer is a hair follicle, it is usually deeper, and the hair which for some time retains its place, finally falls out. In the third variety of follicular chancre, the virus acts immediately on the glandular structure of the vagina, and according to Huguier there is no pustules, but ulceration at the commencement.

The indurated chancre was first described by John de Vigo. John Hunter described it as the type of the primary venereal ulcer, and from him it has been called the Hunterian chancre. Ricord asserts that a chancre never becomes indurated before the fifth day, I am quite sure that a chancre is never indurated ab initio, but that it may become so at any period of its progress. Ricord, considers induration as the index of the constitution being affected, and I am inclined to believe him correct. It is certainly the most annoying of all forms of chancre, and the most sure to be followed by constitutional symptoms. This fact you should bear in mind; it is of immense importance therapeutically. The induration is due to the effusion of plastic lymph into the cellular tissue, or as Ricord believes, into the lymphatic capillaries. The late Dr. Fricke of Hamburg, proved conclusively, that the application of corrosive sublimate to the prepuce will occasion ulcers with a hard base. Now, the only safe means of diagnosis between these and true chancre is their non-inoculable character, and their never being followed by constitutional symptoms. The indurated chancre is usually very indolent. Induration begins at the base of the chancre. Benjamin Bell compared it to a split pea, inserted in the tissue, so cartilaginous is the hardness. It is usually round when situated in homogeneous tissues with regular edges, and is of a very dark colour. The base may be indurated and not the edges, and the reverse, but usually the whole chancre is equally compromised. Immediately around it ulcers may exist, which do not present any of these characters. You will usually meet with this form of chancre on the edge of the prepuce, on the corona glandis, on the edge of the labia majora, and especially on the labia minora. On the lips and tongue, the indurated chancre may be confounded with cancer, and vice versa. An indurated chancre rarely or never disappears spontaneously.

A Phaghadenic chancre is usually very rapid and destructive in its progress, increasing in extent and not in depth, and accompanied with severe pain. Its march is irregular and serpiginous. It occurs generally in constitutions worn out by intemperance, and follows very often irritating dressings which have been injudiciously applied to irritated or inflamed chancres, especially mercurial ointment. It is called the black slough in England.

There is a form of phagadenic sore, called diptheritic or pultaceous, which is exceedingly chronic, (Ricord has seen it last for seven years,) and is covered either entirely, or partially by a pultaceous diptheritic secretion. The base is œdematous, and the edges are elevated, irregular, and serrated, and it is surrounded by a dull purple areola, and it increases by successive ulceration of the depending parts. The constitution becomes seriously implicated, and the patient finally sinks. This form of chancre occurs in ill-fed, badly lodged individuals, in whom there is previous organic disease.

The Furunculous chancre, is the consequence of the subcutaneous or sub-mucous abscesses, previously described. Chancerous buboes, may also be included in this category. This form of chancre generally burrows in the cellular tissue, destroying it to some extent.

Chancres may be modified by inflammation, the occurrence of erysipelas, and by gangrene. This last is a very serious complication, the destruction of the part inevitable, and deformity always follows cicatrisation. Ricord says, that gangrene neutralises the virus, and constitutional symptoms rarely occur.

The seat of chancre is next to be considered. Its ordinary seat in the two sexes is the genital organs, and the other parts of the genital apparatus most commonly affected are, in men, the penus the base of the glans, the base of the mucous fold of the prepuce as it touches the collun, the edge of the prepuce, the glans, the meatus, the fossa navicularis, the urethra, the body of the penis, the scrotum and the pubes. In the female, the orifice of the vagina at the inferior part, especially the fourchette, and the sides and depressions of the carunculæ, the nymphæ, the labia, the meatus, the clitoris and the pubis. The nymphæ are especially liable to be the seat of chancre both from their organisation and situation. They are covered throughout with mucous membrane, which absorbs with great readiness, and they contain a vast number of sebaceous follicles, which are ready recipients for the venereal virus. The part they perform in coition will naturally suggest to you the great risk of contamination they are exposed to. After the genital organs, the most common seat of chancre is the perineum and the pourtour of the anus. There is no part of the body to which the virus can gain direct admission but may be the seat of chancre. The progress of civilization, and the depraved and irregular taste which too often accompanies it, render all parts of the body liable to chancre. I would willingly pass over this part of my subject, for I feel pained in exposing the gross depravity of humanity, but the interests of science are paramount to all other considerations and require that I should indicate to you the localities where you may occasionally meet with chancre. I am happy to state that the occurrence of chancre in these illicit spots is very rare in this country. I have frequently seen primary syphilitic ulcers in the French hospitals, in the anus, lower extremity of the rectum, on the lips, the tongue, chin, tonsils, velum palati, between the breasts, in the axilla, the nipple, &c. I am unwilling to enter more in detail, but bear in mind this fact, that there is no part of the body which may not become the victim of a disordered taste; not even the toes and fingers. Swediaur relates the case of a man who, having passed the night between two women, one at the head and the other at the foot of the bed, to revenge

himself for the inactivity he was condemned to, touched with his foot the organs of one of the women; the consequence was a chancre on his great toe, followed by indurated inguinal ganglion. The manner of propagation of a chancre can only be in one way—by means of the virus. Every other imaginable method has been devised, from the promiscuous use of holy water, public bathing, &c., to a tight boot. But sexual intercourse, although the most common, is not the only mode of contagion. During labour a mother may inoculate her child; the surgeon's finger, if abraded, may become inoculated by examining a chancre. A melancholy instance of this kind occurred a short time ago in Paris. Dr. Hourmann, a physician of celebrity, attached to the Female Venereal Hospital, inoculated a cut on his finger, whilst examining a patient; consecutive symptoms supervened, and he died at the end of ten months. Surgical instruments employed in opening chancres, buboes, &c., may also communicate the disease; but these are all examples of inoculation; the difference is in the vehicle.

The diagnosis of chancre is sometimes very difficult. Most respectable and honourable persons, who would scorn an untruth under all other circumstances, will frequently deceive you in this respect without any hesitation, and deny stoutly the possibility of the fact. Women are especially positive, and often *impayable*. A sense of shame will induce many to resort to untruth to conceal their errors. Locality is, as you have seen, no argument against the existence of chancre. Indurated chancre may be confounded with cancer, and vice versa, especially in the tongue. The employment of a syphilitic treatment is, in many cases, the only means of diagnosis. The sources of error are numerous; for all sores on the genitals are not syphilitic, but merely simple abrasions or wounds. A recent suspicious connection will, of course, throw much light on the subject.

The prognosis is rarely grave when the constitution is tolerably good, and the sore is not phagadenic. An indurated chancre may be regarded as a certain sign of the constitution being infected.

Before proceeding to the local treatment of chancre, I want to give you the description of a chancre induced by artificial inoculation, which the experiments of Ricord have made so famous. During the first twenty-four hours after the introduction of the virus beneath the epidermis, there is slight inflammation, followed on the second day by tumefaction, and a small ecthymatous papule, surrounded by an areola; from the third to the fourth day there is a vesicle, filled by a fluid more or less opaque, with a dark point at the apex; about the fourth or fifth day this becomes purulent, with the centre depressed, and resembles a small-pox pustule. The areola, which up to this period had increased, now diminishes, and after the fifth day the surrounding tissues, hitherto unaffected, become of a cartilaginous hardness. After the sixth day the pustule dries, becomes covered by a laminated crust, and this, when detached, becomes a characteristic ulcer with a broad base.

Prophylaxis.—I have not here time to enter into an examination of the various prophylactic measures which have been proposed. The most certain one is the avoidance of the cause. Cleanliness is another means of prevention. The presence of the catamenia and vagino-uterine catarrh is said to diminish the risk of infection in women. Urination, and careful larvation of the organ, is a prophylactic measure in the man.

Treatment.—A chancre at first is a purely local affection, and the virus is not yet carried into the system, and the constitution is not yet compromised. Now the greater the length of time the specific sore is allowed to remain, the greater are the chances of constitutional contamination. Your first object should, therefore, be to convert the specific ulcer into a simple one, by destroying the seat of the virus, unless there is some positive contraindicating symptoms present. This is best accomplished by some caustic application. If the sore be a recent one, if induration has not occurred, you will probably prevent subsequent infection of the system. Now various escharotics have been proposed to accomplish this. The solid nitrate of silver is the one commonly used by Ricord, and preferred by him and most surgeons. You usually pass the crayon of nitrate of silver, previously cut to a sharp point, over the edges and fundus of the sore, cauterising it freely. Now, in some persons great irritation and inflammation will follow the use of the lunar caustic. This I have often seen happen. It occurred in the case of the man with the chancrous bubo that I exhibited to you. Before the interne left the ward, great tumefaction and inflammation had supervened, so as to alarm him very much. The nitrate of silver is by many considered as powerful enough to irritate, but not to destroy. The object of the escharotic employed is to disorganise the whole of the contaminated tissue. For this purpose there is, perhaps, no better caustic than the proto-nitrate of mercury, made by dissolving a drachm of the sub-nitrate of mercury in an ounce of nitric acid; a camel's hair pencil, or a piece of lint attached to a handle, is saturated with the caustic, and the ulcer is freely painted over; a yellow eschar results, which, in separating, leaves a simple ulcer beneath.

Strong nitric acid, and the acid nitrate of silver, (made by dissolving an ounce of the nitrate of silver in an ounce of nitric acid,) have also been recommended. I have no experience with either of these escharotics in the treatment of chancre. The potassa cum calce has been strongly recommended by Mr. Langston Parker, of Birmingham, a surgeon of much experience in Venereal Diseases, and the author of an excellent treatise on them. He forms it into a paste of moderate consistency with the spirits of wine just before using it, and covers the sac with it. He allows it to remain on from half a minute to a minute, according to the degree of pain. It is then removed by means of a bone spatula, and the black eschar left treated in the usual manner presently to be indicated. The aggregate amount of pain he states is less than that of the lunar caustic, and the effect much more certain. When the sore is quite recent and small, I have frequently succeeded in effecting a rapid cure by the application of a pencil of the sulphate of copper, until the surface of the sore is destroyed. I then direct the patient to use frequent ablutions of cold water during the day to the part. The eschar will be detached in the course of a few days, with diminution in the size of the ulcer, which generally heals rapidly without any troublesome symptoms. Cauterisation must be renewed until the ulcer begins to granulate.

After cauterisation rest must be generally enjoined, and a poultice is to be applied; if there be much inflammation lead water, &c., must be used, together with low diet, &c. When the eschar separates, the sore must be treated as a simple ulcer, by weak stimulating lotions, as solutions of the sulphate of copper, the black and yellow washes; the sulphate of alumina, &c. Never use ointments or other greasy applications, especially mercurial ointment, to a chancre. One of the best applications to a chancre in

this stage is the aromatic wine of the French Pharmacopœia. This consists of a number of the aromatic herbs digested in port wine. The wine used here is double the strength of the French preparation, owing to port being used instead of Burgundy. It should, therefore, be always diluted one-half at least. Tannin may be added to render it more astringent. If the chancres are very irritable and painful, use an aqueous solution of opium, belladonna, and other anodyne lotions; a solution of the acetate of lead powerfully controls pain in these cases.

Larvated urethral chancres may be cauterised by means of Llallemand's instrument, and afterwards treated by the introduction of a piece of lint into the canal, and injections. Sometimes cauterisation is decidedly contraindicated, by the presence of great irritation, or actual inflammation, or the chancre may be complicated with phymosis, and you may not be enabled to reach it. Now, in the former of these cases you must employ strict antiphlogistic treatment. Rest and proper diet are always powerful adjuvants in the treatment of syphilis. The former cannot always be followed, but the latter always. If inflammation exists, and you use caustics or stimulating dresses, sloughing may ensue, and small ulcers will assume from the same cause a phagadenic character, and irreparable mischief may ensue. The anti-mercurial treatment of syphilis has proved the great beneficial results arising from rest, proper regimen, and soothing applications in controlling the ravages of the disease. In both the instances mentioned you must first treat the local complications, and subsequently, if necessary, resort to the specific treatment for the constitutional effect. This plan of treatment will occupy our attention at our next meeting.

BIBLIOGRAPHICAL NOTICES.

Principles of Medicine. Comprising General Pathology, Therapeutics, and a Brief General View of Etiology, Nosology, Semeiology, Diagnosis, and Prognosis. By Charles J. B. Williams, M. D., F. R. S., Professor of the Principles and Practice of Medicine, etc. etc. etc. *With Additions and Notes.* By Meredith Clymer, M. D., Lecturer on the Institutes of Medicine, Physician to the Philadelphia Hospital, Fellow of the College of Physicians, etc. etc. Philadelphia: Lea & Blanchard. 1844. 8vo, pp. 383.

The author offers, in his preface, as an apology for for the present publication, the actual want of a work on General Pathology, and its application to Practical Medicine; a want which, in common with most teachers of the practice of medicine, he has himself experienced. An able c otemporary has recently thus defined the scope of a treatise on General Pathology: "The legitimate object of a work on General Pathology is the study of diseases in the abstract, and in that which they have in common. It should serve as a complement to special and descriptive pathology, just as general anatomy does to descriptive anatomy. It should comprise all that is most simple and most elevated in science; on the one hand, the definition of the terms, and the description of the phenomena of diseases; on the other hand, the discussion of all the fundamental questions, and the exposition of the general principles which should serve to guide the physician in the arduous exercise of a profession so intimately connected with the dearest interests of humanity. General Pathology, in fact, includes within itself the humblest elements, and the most sublime philosophy of medicine." In France the works of Chomel and Dubois stand deservedly high, especially the former and that of Neumann in Germany holds justly an elevated rank. The "Principles" of Dr. Williams is, we think, entitled to assume a station along with these. It is without a competitor in our language, and fills most successfully a decided gap in our medical literature. The actual state of our science is very fairly represented, and besides a free appropriation of the writings of his contemporaries, the author has drawn largely on his own experience; "a continual observation of disease for the last twenty years in hospital and private practice," affording him abundant opportunity for its accumulation. The following sound remarks we extract from the preface:—

"It seems quite extraordinary, that notwithstanding the recent rapid improvements and comparative perfection of the contributory sciences, practical medicine should still halt in the domain of empiricism. A chief reason for the anomaly seems to be that science and practice have rarely been pursued by the same parties. Scientific men are not and cannot be practical, because they have had no experience; and practitioners know little of science; and therefore derive little good from it. Instead of working together, these parties are at issue with each other. But it is high time to put an end to this feud. Philosophers must descend from their transcendental positions, to consider the details of practice and purposes of utility. Those who would be practitioners, must gain from science that knowledge and that method which render experience instructive and useful."—(*Preface*, p. iv.)

An Introduction, on "the Need of the Study of General Pathology as the Foundation of the Study of Practical Medicine," embodies much truth. The present low condition of medical science with the public is referable, Dr. Williams thinks, to the faulty mode of teaching Practical Medicine, an opinion in which we fully concur. Whilst the condition of the contributory sciences is precise and definite, that of the practice of medicine is loose and uncertain. "To the public it appears altogether vague, without any acknowledged principles."—(p. 13.) The result is, the triumph of quackery; and most appalling, indeed, is its progress in both continents. The public have no faith in legitimate medicine, because it so frequently fails to accomplish what it promises, and they have a ready credence for any novelty. "The public show their ignorance by such credulity; but they show also the want of something plain and trustworthy in regular medicine. The public will not believe that the secret of the art is with a faculty which professes to follow experience only." The quack can appeal to his experience, and does so loudly, if not triumphantly. The consequence is not a determination on the part of the profession

to contribute to the elevation of practical medicine in the eye of the community, by the cultivation of general principles, and their application to the legitimate objects of our art, but too often a recourse to the very means which are undermining medicine—the opposition of quackery by quackery—the application of the homœpathic maxim *similia similibus curantur*, and with about the same amount of success—the infusion of a spirit of charlatanism into the profession at large.

When a few weeks ago we looked at that body of young men, assembled from every section of our country, for the attainment of a knowledge of practical medicine, enthusiastic and ardent in their object, we could not help thinking that if quackery flourish in the land there must be something wrong in those who have the instruction and guidance of such excellent and malleable materials. If such are properly taught the principles of medicine, and a proper spirit is infused into them, it is impossible that medical charlatanism can survive; the extended and united influence of such bodies of men as our medical schools annually send forth, must necessarily soon exterminate quackery, if they acquire in the course of their education an abiding reverence for their art. The evils of quackery are due, in a great measure, we feel assured, to the imperfect system of medical education; to the selfiish principle of aggrandisement which prevails amongst teachers and their institutions; and to the neglect, if not contempt of the sacred duty imposed upon them. "The practice of medicine, as taught, is an enormous mass of dry detail: its science mere glimpses into an unknown land; its rules irregular tracks through a wilderness of confusion." A distaste is thus acquired for the most useful and necessary branch, and the result is disappointment, with a mistrust and contempt for principles, and the subsequent adoption of a pure empiricism.

In the first chapter, Etiology is treated of in some detail, and the cause of diseases investigated with considerable acumen. The second chapter treats of Patho logy Proper, or Pathogeny. The disorders of the various Primary Elements are examined at length. The sections on the Blood are very complete, and exhibit the actual state of our knowledge on this important point fairly and cleverly. The Proximate Elements of Disease are next considered; these embrace Anemia, Hyperemia, Congestion, and Inflammation. The section on Inflammation is especially worthy of attention: many of the views are original and of a highly practical bearing. Chapter VI. treats of Structural Diseases, or Diseases of Nutrition; as Atrophy, Hypertophy, Softening, Textural Deposits, Non-Malignant, and Malignant Growths. The Classification, Symptoms, and Distinction of Diseases, including Nosology, Semeiology and Diagnosis, are comprised under chapter V. Prognosis occupies the whole of chapter VI. and is treated of at length, and includes the various modes of death, and their operation on the blood. Chapter VII, and the concluding one, treats of Prophylaxis, and Hygiene.

Some parts of the work were stated by the author, in his preface, to be incomplete, owing to want of time "To supply the omissions has been the endeavour of the American Editor. The chief additions will be found in the sections on the Blood, on Diagnosis and on Prognosis. A chapter on Fever and Hygiene have also been added."—(*Preface*, p. v.)

An Experimental and Critical Inquiry into the Nature and Treatment of Wounds of the Intestines. Illustrated by Engravings. By Samuel D. Gross, M. D., Professor of Surgery in the Louisville Medical Institute, etc. etc. etc. Louisville: Prentice & Weissinger. 1843. 8vo. pp. 219.

"A monograph on wounds of the intestines has long been an acknowledged desideratum in our surgical literature. The work of Mr. Travers, the only work of the kind in the English language, has been out of print for nearly a quarter of a century, and hence the only information accessible to practitioners, especially to those of the United States, is such as is to be found in the various periodicals of the day, in the transactions of societies, or in our systematic treatises on surgery. The latter, unfortunately, contain little, if any thing, that is worthy of reliance; they enter into no details, and some of them do not even allude to the subject; a circumstance so much the more surprising when we reflect upon the importance of these injuries, and the attention which has been bestowed upon them by some of the most respectable members of the profession. In the following pages an attempt has been made to supply this deficiency, by exhibiting a connected view of the subject, embracing an account of the results of my own researches, and of those who have preceded me in the same field of inquiry.

The experiments which form the basis of the present treatise, were commenced in the spring of 1841, and continued, with various intermissions, until a few months ago. The object was, in the first place, to inquire into the process employed by nature in repairing wounds of the intestinal tube; and secondly, and more particularly, to determine if possible, the value of the more important methods of treatment recommended by surgeons from the time of Ramdohr down to our own. The experiments, amounting altogether to upwards of seventy in number, were performed exclusively upon the dog, as the most eligible animal that could be procured for the purpose. The wound was generally made in the small bowel, not only because it is the more accessible portion of the alimentary tube, but because it is more liable, when thus injured, to become the seat of fæcal effusion, and also, perhaps, of high inflammation. The results are stated, in every instance, with as much brevity as is consistent with a work of this description."—(*Preface*, pp. v.—vi.)

The first chapter treats of the Nature of Wounds of the Intestines, including, besides, the anatomical structure of the contents of the abdominal cavity, the symptoms, diagnosis, prognosis, and mode of reparation. The second chapter is an extended one, and the Treatment of Wounds of the intestines is discussed in all its bearings. Professor Gross thinks that the fatality of penetrating wounds of the abdomen has been much exaggerated. Wounds of the peritoneum have been a sort of bugbear with surgeons, not so much from what they have seen, but from what they have heard. Our author thinks that where the wound of the intestine is of any size, the external wound should be dilated, if necessary, and the intestinal lesion secured by means of sutures, in order that subsequent effusion may be prevented. When the wound in the bowel is not more than the third or fourth of an inch, such, of course, would be unjustifiable.

The space occupied by the Clinical Lectures in our

present number does not enable us to do justice to Dr. Gross' work, and we have already postponed our notice of it too long to admit of further delay. It displays much labour and research. The author has sustained his views and those of others by a direct appeal to experiment. We consider it a valuable contribution to our literature, and as worthy of the high reputation of the author. We intend, at more leisure, to recur to it, and until then, recommend it to our readers; for similar exertions on behalf of the profession, should be met with a corresponding spirit.

DR. TAVERNIER'S LEVER-BELT AND BUSK FOR THE TREATMENT OF SPINAL DEFORMITIES.

The apparatus consists of a broad leather belt, which fits round the pelvis, and has a kind of semicircular steel rack attached to it at a point corresponding to the sacrum. A steel bar or busk, which fits vertically into this rack, can be placed and firmly fixed in any requisite degree of lateral inclination. A broad leather strap is fastened to the belt in front, and is destined, after being brought obliquely round the body, to be fastened by two or more tongues to studs towards the upper part of the busk. The belt round the pelvis is steadied by a strap passed underneath the thigh, in order to render it a sufficiently fixed point of resistance.

To apply this instrument, suppose in a case of right lateral curvature, the belt is first fastened rather loosely round the pelvis, and the busk is inclined laterally towards the left shoulder, the degree of its inclination depending on the amount of the deformity. The strap, which is fastened to the belt in front, is now passed obliquely in front of the thorax and under the right arm, so as to pass over the ribs, which project in consequence of the spinal deformity. The length of this strap is so adjusted that it cannot reach the busk while the body is erect, and the trunk must therefore be bent to the left side, and while it is in that position the strap is fastened to the busk. The patient is now obliged to endeavour to throw the body to the right side, in order to restore the equilibrium; and, to use Dr. Tavernier's own words, "by this movement, which that part of the spine situated above the strap can alone perform, the upper half of the arch, which the curved spine presents, finds itself of necessity brought back, in conformity to the axis of the body."

We may quote the following explanation of the mode of its action:

"It is then, as we may see, by the combination of two actions, one mechanical, and produced by the apparatus, the other physiological, resulting from the play of the muscles, that the method of the lever with inclination acts on the bent spine. It is, in other words, working to obtain an opposite effect to that which we desire to destroy, and by the intervention of the same forces, the same immediate causes, but acting in a contrary direction, and with the view of effecting a cure, that this apparatus acts beneficially on the vertebral column."

The reviewer in the British and Foreign Medical Review, for October, considers it as really a very valuable instrument in the treatment of lateral curvature of the spine. The reviewer has applied it in two cases, and in both was the result most satisfactory.

In order to render the cure permanent, Dr. Tavernier recommends the use of "a simple ordinary corset, to which are differently adapted, according to the case, large ribands, which have for their object to bend the spine in the direction of the busk employed for the treatment."

DR. BENNETT ON INFLAMMATION OF THE NERVOUS CENTRES.

1. Two kinds of cerebral and spinal softening exist, an inflammatory and a non-inflammatory, which may always be distinguished from each other by means of the microscope.

2. Inflammatory softening is characterized by the presence of exudation corpuscles and granules, whilst in non-inflammatory softening these bodies are never found.

3. The nature of inflammatory softening consists in the formation and development of nucleated cells in exuded blood plasma; whilst the nature of non-inflammatory softening consists in the mechanical destruction or maceration of the nervous tissue in serum, or is the result of putrefaction.

4. Non-inflammatory softening, unaccompanied by hemorrhage, is usually *post mortem*, and causes no symptoms; whilst uncomplicated inflammatory softening always causes marked symptoms, which, however, vary according to the seat of the lesion.

5. The inflammatory and non-inflammatory softenings have frequently been confounded together by morbid anatomists, it being impossible to distinguish one from the other, with any certainty, by the naked eye.

6. Inflammation in the nervous centres has, in several instances, been demonstrated by means of the microscope, after it had escaped the search of good morbid anatomists, and been indicated by the most unequivocal symptoms.

7. Every different coloured softening has, at various times, been found to be connected with inflammation, but that yellow and white softenings are most frequently non-inflammatory, whilst the fawn-coloured softening is commonly inflammatory.

8. Red softenings usually depend on congestion, or the direct extravasation of blood; yellow softenings, on the imbibition of the colouring matter of the blood; fawn and gray-coloured softenings on the presence of brown exudation corpuscles; and white softenings, in the great majority of cases, are *post mortem* and the result of maceration in serum.

9. In no single instance has softening of the nervous centres been traced to the presence or infiltration or pus.

10. Inflammation of the central parts of the brain generally produce well-marked lesions of sensation and motion, whilst, in inflammation of the peripheral portions, lesions of intelligence are commonly well pronounced.

11. In idiopathic inflammatory softening of the brain, contraction in one or more limbs is a common symptom.

12. The fawn-coloured spots described by Dr. Sims are no evidence of the cure of inflammatory softening.

13. Inflammation accompanying hemorrhages is usually consecutive.

14. The softening surrounding apoplectic clots or sanguineous infiltration is no proof of inflammatory action.—*Edin. Med. and Sur. Journal*, October 1, 1843.